Manual for Home Storage, Pickling, Fermentation and Salting Vegetables

With directions for Making Potato Starch,
Fruit Pastes, Butters, Etc.

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STORING VEGETABLES FOR WINTER

As a war time measure no form of Food Conservation is more important than the winter storage of vegetables. Canning and drying are essential to the Nation's food supply, and should be practiced to the fullest possible extent, but they do not take the place of plain storage. To keep vegetables in their natural state is the simplest form of preparation for winter needs. By taking proper precaution against decay and freezing an abundant supply of certain kinds of fresh vegetables may be kept at minimum expenditure of money and effort.

THE NEED FOR STORAGE

The importance of making provision for winter food needs was never so great as this year. Every pound of foodstuffs that can be spared for export will be needed in Europe for feeding American troops and to prevent the starvation of the domestic and military populations of the Allied Nations. Every pound of vegetables stored away for home uses will release food for export. A nation at war is a nation with a food problem. A nation with a food shortage is a nation in peril. For this reason it is

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of vital importance that no vegetables of high food value be allowed to go to waste.

The home gardening campaign conducted by the National Emergency Food Garden Commission this year resulted in the creation of a vast new planting area. More than three million gardens have been planted where none grew before. The output of these gardens is greatly in excess of immediate needs. Unless proper steps are taken to safeguard the surplus the waste will be prodigious. This Commission has already stimulated nation-wide activity in canning and drying. The purpose of this booklet is to arouse similar interest in the storage of vegetables and in other forms of winter preparedness.

Storage is an essential factor in Food Conservation. Households which fail to store their own supplies will find themselves forced to pay winter tribute to the wideawake business concerns which have practiced storage on a commercial scale. By storing vegetables during the season of lowest prices even the household which has no home garden can save much of the cost that would be involved in winter purchases and incidentally make important contribution to the national food supply.

WHAT AND HOW TO STORE.

There are many vegetables which may be stored to good advantage. Included in the list are late potatoes, beets, carrots, parsnips, turnips, sweet potatoes, onions, celery, cabbage, salsify, dry beans and dry lima beans. For some of these satisfactory storage places are provided by the pantry shelf or attic. For others the cellar is the right place. For others outdoor storage is preferable. This may take the form of pits or banks, or it may be done in hillside caves or cellars. Especially good results may be obtained if several neighboring families will form community clubs to provide storage facilities. In this way very complete provision may be made for handling winter supplies at slight trouble and expense to the individual household.

CELLAR STORAGE.

In a house heated by a cellar furnace vegetables may be stored in the cellar. Partition off a small room and if possible see that this room has at least one outside window for temperature regulation. An earth floor is desirable, but in a cellar with a concrete floor the purpose may be served by covering the concrete surface with two or three inches of sand, which should be sprinkled with water from time to time. In this room may be stored **potatoes, beets, carrots, parsnips, turnips** and **salsify.** Put them in bins or in boxes, baskets, slat crates or barrels. A bin should hold not more than two or three bushels. The vegetables should be harvested when the ground is dry and should lie outdoors until any moisture on them has evaporated. Remove the tops from beets, turnips, carrots and salsify. In cellar storage beets, carrots and turnips may be buried in damp sand to good purpose. **Radishes** harvested late in the fall should be stored in a cool place and covered with three inches of moist sand or they may be buried in the yard under six inches of soil. The cellar room also may be used for the storage of fresh fruits and canned goods. In storing potatoes it should be remembered that the purpose is to protect them from great changes of temperature and from light. Even a small amount of light damages the food value of potatoes. There should be enough moisture to keep the potatoes from wilting, but not enough

to cause moisture to gather on the surface.

The temperature of such a storage room should be carefully controlled to prevent wide fluctuations. A constant temperature around 40 degrees F. is desirable. It should not be allowed to go below 32 degrees or above 50 degrees during the period of storage.

Potatoes should not be washed. If they begin sprouting in the spring all the shoots should be rubbed off. The bins should be examined occasionally and any rotting potatoes removed to prevent the spread of infection.

PIT STORAGE.

For outdoor storage make a pit 6 or 8 inches deep and as large as needed, in a well-drained place. Line this with hay, straw, leaves or similar material and place the vegetables on this lining in a conical pile. Cover the vegetables with several inches of straw, leaves or something similar and cover this with enough earth to prevent freezing. In cold climates the earth covering should be a foot or more in thickness. It is well to make several small pits rather than one large one, for the reason that when a pit has been once opened the entire contents should be removed. This form of storage is used for **late potatoes, beets, carrots, turnips, parsnips, late cabbage and salsify.** It is well to store several varieties of vegetables in one pit so that the opening of a single pit will afford a supply of all of them. In following this plan it is desirable to separate the various crops by the use of straw or leaves. When the pit has been opened the vegetables may be placed in the basement room and used as needed.

For late varieties of cabbage the pit should be long and narrow. The cabbages are placed in rows with heads down and covered with dirt. No other covering is needed. The removal of a portion of this supply does not disturb the remainder. Cabbages may be stored in the cellar in boxes or barrels of earth or sand, or they may be placed in a cool cellar on the floor, with roots up.

Cabbage may also be stored by placing the whole plant in a trench, roots down, and placed closely together. The roots should be covered with dirt and dirt should be banked over the stalks to a depth of several inches. Place two feet of straw or other material over the pit.

Mature heads of cabbage of long-keeping sorts, such as Danish Bull Head, may be cut from the plant and stored one layer deep on shelves in cool, frost-proof cellars or outbuildings.

In storing celery in a pit or trench, the plants are set side by side as close as they may be packed and wide boards set up along the outside of the pit. Dirt is banked against these boards and the top covered with corn fodder or similar covering. If celery is kept in the row where grown the earth should be banked around the plants with the approach of cold weather. For freezing weather bring the dirt to the tops of the plants and cover the ridge with coarse manure, straw or fodder, using stakes or boards to hold the covering in place. Only late maturing and late planted celery can be safely stored.

OUTDOOR CELLAR.

An outdoor cellar makes a good storage place. In cold climates this should be partially underground. A side-hill location is desirable for ease in handling the vegetables. To make such a cellar dig an excavation and in this erect a frame by setting posts in rows near the dirt walls. Saw

these posts off at uniform height and place plates on their tops. On these plates place rafters. Board up completely with the exception of a place for the door. The whole should be covered with dirt and sod, and in cold climates added protection should be given by a layer of straw, fodder or similar material. A dirt floor is best, as some moisture is desirable. This form of storage is especially good for the joint use of several families.

On a more pretentious scale cellars of this nature may be made of brick, stone or concrete. Such cellars afford practically perfect storage room for late potatoes, carrots, parsnips, beets, turnips and salsify.

VARIOUS METHODS.

Permanently cold frames, with deep pits, may also be used to advantage in storing vegetables if the drainage is made thorough. After the frames are filled the sash should be covered with boards and the outside banked with soil or manure. As the weather becomes severe a covering of straw or mats is necessary. This covering should be heavy enough to prevent freezing.

Cauliflower and brussels sprouts which have not matured may be taken up and planted in shallow boxes of soil in a light place in the cellar. If kept well watered they will mature for winter use.

Onions require a cool, dry place. They should be cured by being exposed to the air for a few days in the shade. The tops should be removed before storing. Keep them in baskets, trays or other holders which let the air circulate. Onions are not damaged by temperatures slightly below freezing, and for storing them the attic is better than the cellar.

Squashes are susceptible to cold and moisture, and for that reason should be stored in a dry place where the temperature will approximate 50 degrees F. Squashes may be kept by placing them in a single layer on a dry floor and covering with rugs or carpets, but care must be taken that the stems are not broken off and that they do not become bruised before storing.

Parsley may be saved by transplanting into flower pots late in the fall. These should be kept in windows where they will receive sunshine.

Tomatoes may be saved by pulling up the entire plant before freezing weather. The vines should be suspended by the roots in a cool cellar. The tomatoes will gradually ripen.

Sweet Potatoes.—In storing sweet potatoes the important points to be kept in mind are that the potatoes must be well matured before they are dug; they must be handled with extreme care; they must be allowed to dry or cure thoroughly before storage, and they must be kept at an even temperature. A test for maturity is to cut or break a sweet potato and expose it to the air for a few minutes. If the surface of the cut or break dries the potato may be considered mature, but if moisture remains on the surface it is not properly ripe. In sections where frosts come early digging should take place about the time the first frost is expected, without regard to maturity. Care in handling is necessary to prevent bruising and decay. Curing is done by keeping them at an even temperature of 80 to 85 degrees F. for a week or ten days after harvesting, to dry off the moisture. The room in which this is done must be ventilated in order that the moisture-laden air may escape.

For storing sweet potatoes on a large scale a specially constructed house is desirable. For home storage the roots may be kept near the furnace in the cellar or near the furnace chimney in a vacant upstairs room or in the attic. The room should be kept fairly warm. After curing the temperature should be maintained around 55 degrees F.

POTATO STARCH AND ITS USES

To prevent tremendous waste in potatoes and to create an important food supply which will decrease the drain on the nation's available wheat and flour, the American home should avail itself of the simple methods developed by modern science for the making of *Potato Starch.* This is easily done in any household. Its advantages are:

Utilizing culls, bruised, poorly developed and otherwise useless potatoes, of which it is estimated that probably 75,000,000 bushels go to waste in the United States each year.

Providing a healthful, appetizing food product which can be used in many ways where flour is now used.

No equipment is needed other than a cylindrical grater or sausage-grinder, a pan or galvanized vessel for holding the potatoes, another vessel into which the grating or grinding is done, and another into which to empty the gratings; water in abundance and cloths for wiping. If a sausage-grinder is used, the potatoes should be cut into small pieces before grinding.

The potatoes should be thoroughly washed with the use of a scrubbing brush. Do not remove the skins. After grating or grinding into a dish-pan held on the lap or on a low table, empty the potatoes into another vessel until it is half full or slightly more. Pour over these gratings, fresh, clean water, stirring thoroughly in order that the entire mass may be saturated. After this has stood for a while remove the particles of peelings and other material floating on the surface. Add more water, stirring well, and let stand over night, to allow the starch granules to settle to the bottom and all pulp or peelings to rise to the surface or settle on the top of the pile. The water and the pulp and skins should be removed carefully and the dark coat scraped from the top of the starch formation, with care to remove none of the starch. Then pour fresh water over the starch, stirring well, and allow this to stand for several hours, or over night. The water and pulp should be removed, as before, and water again poured over the starch. Repeat this process until the starch is perfectly white and is free from pulp, sand or sediment. The finished product resembles wheat flour in whiteness and smoothness.

A short-cut in the process may be achieved by straining pulp, starch and water through a cheese-cloth or cloth of even finer mesh, immediately after the first rinsing.

RECIPES FOR USING.

Boiled Custard.—Beat 4 eggs slightly and add ½ teasponful of salt and 8 tablespoonfuls of sugar. Take 1 quart of milk. Mix 4 tablesponfuls of potato starch with a little of the milk, add the remainder of the milk and cook in double boiler for 5 minutes, or until thickened. Pour slowly over the eggs, stirring steadily. Again cook in double boiler for a few minutes, taking care to see that it does not cook long enough to curdle. Add 1 teaspoonful of vanilla just before taking from stove. To make a thicker custard use a little more starch.

Frozen Custard.—Thin custard, made as directed in the preceding paragraph, may be frozen with or without the addition of fruit, fresh or canned. Serve with lady fingers, made as directed in a subsequent paragraph.

Lemon Pudding.—Take the yolks of 4 eggs, and after slightly beating them, add ¾ cup of sugar, 2 tablespoonfuls of butter, the juice and grated rind of 2 lemons. Mix 8 tablespoonfuls of potato starch in a small quantity of cold water and add gradually 1 quart of scalded milk. To this starch, water and milk add the other ingredients and cook in double boiler until

thickened, with constant stirring. Beat the whites of the 4 eggs until stiff, add to the pudding, pour into a mold and serve with cream and sugar after chilling.

Fruit Blanc Mange.—Take 1 pint of fruit juice, sweetened to taste, and place in saucepan over fire until it boils. Mix 3½ tablespoonfuls of potato starch with small quantity of cold water, add to fruit juice, and pour into a mold for cooling. Serve with boiled custard, made as directed, or with whipped cream and sugar.

Lady Fingers.—Beat the whites of 3 eggs. When stiff and dry add gradually ⅓ cup powdered sugar and continue beating. Add yolks of 2 eggs, beaten thick, and then add ¼ tablespoonful of vanilla. Then cut and fold in 4 tablespoonfuls of potato starch into which has been mixed ⅛ teaspoonful of salt. To force the batter into proper shape (4½ inches long and 1 inch wide) use a pastry bag and tube or a cornucopia made of paper, squeezing the batter onto a tin sheet covered with unbuttered paper. Bake 8 to 10 minutes in moderate oven.

Potato Starch Angel Cake.—Beat until frothy the whites of 8 eggs, add 1 teasponful of cream of tartar and keep on beating until stiff and flaky. Add 1 cup of fine granulated sugar, gradually. Cut and fold in ¾ cup of potato starch, into which has been mixed ¼ teaspoonful of salt, the combination having been sifted several times. Add ¾ teaspoonful of vanilla. Bake 45 to 50 minutes in moderate oven or in an unbuttered angel-cake pan. When cake begins to brown, after rising, cover with buttered paper. The cake should be loosened around edges and turned out at once after baking.

Potato Starch Lemon Pie.—Mix 4 tablespoonfuls potato starch and ¾ cup of sugar. Add ¾ cup of boiling water, stirring steadily. Cook for 5 minutes. Add 1 teaspoonful of butter, yolk of 2 eggs and 3 tablespoonfuls of lemon juice and the grated rind of one lemon. Pour the mixture in pie crust already cooked, and use the whites of the eggs for meringue, which should be browned in oven after applying.

Potato Starch Sponge Cake.—Take the yolks of 6 eggs. Beat until thick and lemon colored. Add 1 cup sugar gradually and keep on with beating. Add 1 tablespoonful of lemon juice, the grated rind of ½ lemon and the whites of the eggs, beaten stiff and dry. When the whites have become mixed with the yolks cut and fold in ¾ cup of potato starch mixed with ¼ teaspoonful of salt. Bake 1 hour in slow oven, using deep, narrow pan or angel-cake pan.

FERMENTATION AND SALTING

The use of brine in preparing vegetables for winter use has much to commend it to the household. The fermentation method is in general use in Europe, and is becoming better known in this country as a means of making sauerkraut and other food products which supply acid diet, without requiring the containers used for canning. No cooking is required by this process. Salt brine is the one requirement. The product may be kept in any container that is not made of metal and is water-tight. The vital factor in preserving the material is the lactic acid which develops in fermentation. This acid has good food value. An important feature is that vegetables thus prepared may be served as they are or they may be freshened by soaking in clear water and cooked as fresh vegetables.

Sauerkraut.—The outside leaves and the core of the cabbage should be removed and the rest shredded very finely. Either summer growth or fall cabbage may be used. Immediately pack into a barrel, keg or tub, which is perfectly clean, or into an earthenware crock holding four or five gallons. The smaller containers are recommended for household use. While packing distribute salt as uniformly as possible, using 1 pound of salt to 40 pounds of cabbage. When the container is almost filled press the cabbage down as tightly as possible and apply a board cover which will go inside the holder. For this cover select wood free from pitch, such as basswood. Glazed plates make excellent covers. On top of this cover place stones or other weights (using flint or granite and avoiding the use of limestone or sandstone). These weights serve to force the brine above

the cover. Allow fermentation to proceed for 10 days or two weeks, if the room is warm. In a cellar or other cool place three to five weeks may be required. Skim off the film which forms when fermentation starts and repeat this daily if necessary to keep this film from becoming scum. When gas bubbles cease to arise the fermentation is complete. If there is scum it should be removed. As a final step pour melted paraffin over the brine until it forms a layer from ¼ to ½ inch thick to prevent the formation of scum, if the weather is warm or the storage place is not well cooled. This is not necessary unless the kraut is to be kept a long time. The kraut may be used as soon as the bubbles cease to rise.

Sauerkraut is also prepared by the salting process. The outside leaves and hard core of the cabbage should be removed and the rest shredded very finely. Salt should be uniformly distributed during the filling process as described below at the rate of 1 pound to 4 gallons of the shredded cabbage. Line the keg or crock on the bottom and sides with the large leaves of the cabbage, put in a layer of shredded slaw three inches deep and sprinkle salt over it. Fill up the keg or crock in this way, keeping a lining of the large leaves at the sides. Pound mass down until very compact, cover with leaves and wooden cover made to fit inside of keg and then put a heavy weight on the cover, so that all the cabbage will be under the brine all the time. Set the keg or crock in a cool place for 24 hours to allow brine to form. Skim occasionally and see that there is plenty of brine. During the warm weather, the time of curing will be about 3 weeks, when the kraut will be ready for use or for canning.

To can kraut made in this way, fill jars tightly, partially tighten tops and sterilize for an hour and a half in hot water bath. After sterilization, remove jars and tighten tops and invert to cool in a place free from draught.

The kraut may be keep in the holder in which it is made by covering with melted paraffin as previously described. This should be done at the end of the 24 hours after packing.

Sauerkraut may be served at the table in several appetizing ways. It may be served raw, fried, boiled with various meats and combinations of vegetables, and baked with certain meats. It makes excellent salad.

Various other vegetables may be prepared by this process. Such greens as *spinach, kale* and *chard* are especially important. In applying the method to *string beans* the beans should be cut into two-inch lengths.

To prepare these vegetables for use the brine should be drained off and the vegetables soaked in clear cold water for several hours, with one or two changes of water. They may then be cooked as fresh vegetables, with at least one change of water while cooking.

To Ferment Cucumbers.—Wash them if necessary and pack them into a water-tight receptacle, such as a barrel, keg or crock which is perfectly clean. Holders made of yellow or pitch pine should not be used, as they will give an unpleasant flavor. On the bottom of the receptacle should be placed a layer of dill weed and a small quantity of mixed spices, varying with the size of the holder. Another layer of dill weed and spices should be made when the container is half full and another near the top, when the container is nearly filled. The contents should be covered with an inch layer of beet tops or grape leaves to protect them from spoilage that may occur in the surface during the process of fermentation. Place a board cover on the contents and press it down with weights of brick or stone, avoiding the use of sandstone and limestone. For the brine use 1 pound of salt to each 10 quarts of water and to this add two-thirds of a quart of vinegar. Pour into the holder enough brine to cover the contents. After allowing this mixture to stand for 24 hours make the holder air-tight. One of the most effective means of doing this is to cover the surface with very hot, melted paraffin, making a layer over the cover and around the weight. (With crocks cover the top with a cloth soaked in paraffin, putting the cover in place before the paraffin hardens). Another method for use with barrels or kegs is to pack the container as full as possible, place board cover and weights as above

and allow the contents to stand for 24 hours before putting the head of the barrel or keg in place. This allows the early gases to escape. Remove board cover and weights and place the head tightly in position. Bore an inch hole in the head and fill the holder completely with brine. Let stand until bubbling stops, adding more brine if space develops. Then plug the vent tightly.

Green Tomatoes.—The process for green tomatoes is the same as that for cucumbers.

Beets and String Beans.—Remove the strings from beans. Beets should be washed thoroughly and packed whole. Spices may be used, as with cucumbers, but these may be omitted if the vegetables are to be freshened by soaking, when they are to be used. The method is the same as with cucumbers.

Peas.—Peas should be shelled and treated as beans are prepared. Small crocks or jars are best for storing peas.

PICKLING VEGETABLES

Pickling is an important branch of home preparedness for the winter months. Instructions for some of the most commonly used methods are given herewith. In pickling, such vegetables as tomatoes and cucumbers are usually soaked over night in a brine made of 1 cup of salt and 1 gallon of water. In the morning the brine is drained off and the vegetables put through the specified pickling process. This gives a firmer product.

Green Tomato Pickle.—Take 4 quarts of green tomatoes, 4 small onions and 4 green peppers. Slice the tomatoes and onions thin. Sprinkle over them ½ cup of salt and leave overnight in crock or enameled vessel. The next morning drain off the brine. Into a separate vessel put 1 quart of vinegar, 1 level tablespoonful *each* of black pepper, mustard seed, celery seed, cloves, allspice and cinnamon and ¾ cup of salt. Bring to a boil and then add the prepared tomatoes, onions and peppers. Let boil for 20 minutes. Fill jars and seal while hot.

Pickled Onions.—Take small white onions of uniform size, peel, cover with fresh water and let stand for two days, changing water at end of first 24 hours. Wash thoroughly and put into brine for four days, changing brine at end of second day. Remove from brine and place in boiling water for 10 minutes, then place in cold water for two hours. Add a few red peppers and garnish with sprigs of mace and pack into jars. Fill jars to overflowing with spiced vinegar which has stood for several days with spice bags left in it. Place in hot water bath for 20 minutes at 180 degrees F. (simmering).

To make **spiced vinegar** take ½ gallon vinegar, 1½ tablespoonfuls *each* of mustard seed and celery seed, 1 tablespoonful *each* of cinnamon and salt, ½ cup of grated horseradish and 1 cup of sugar.

Chowchow.—Take ¼ peck *each* of green tomatoes and small onions, 3 cauliflowers, 3 cucumbers, 6 large red peppers and ¼ peck of yellow string beans. Chop fine. Place overnight in brine made of 5 pints of water and 1 pound of salt. The next morning bring brine and vegetables to a boil for a few minutes. In separate vessel bring to a boil 1 gallon of cider vinegar, to which add a paste made with a small quantity of water, ¼ pound of ground mustard, ¼ ounce turmeric, 1 cup brown sugar and 2 tablespoonfuls flour. To this paste add ½ ounce celery seed, place in the vinegar and boil until it begins to thicken. Drain brine from vegetables, place them in another saucepan and pour the boiling vinegar mixture over them. Mix well, fill jars and seal while hot. The chowchow should be about the consistency of thick cream. Flour may be added to thicken. Celery or cabbage may be used instead of cauliflower.

Piccalilli.—Chop up 1 peck of green tomatoes with 8 large onions. Mix thoroughly with 1 cup of salt and allow to stand overnight. The next morning drain thoroughly and pour

over them 1 quart of vinegar and half a gallon of water. After boiling for 20 minutes in an enameled kettle, drain through a sieve. Put the mixture back into the kettle and add 2 quarts of vinegar, 1 pound of sugar, ½ pound of white mustard seed, 2 level tablespoonfuls *each* of ground black pepper and ground cinnamon, 1 level tablespoonful *each* of ground ginger, whole allspice and whole cloves and ½ teaspoonful of ground cayenne pepper. Boil the whole 15 minutes and stir frequently. Put into jars while hot and seal immediately.

Mustard Pickle.—This is an excellent combination. The ingredients required are 1 pint of whole small cucumbers, not over 2½ inches long, 1 pint sliced cucumbers, 1 pint small whole onions, 1 cup of string beans, 3 green sweet peppers, 3 red sweet peppers and 1 pint green fig tomatoes or 1 pint cauliflower. The vegetables should be cut before they are measured, the tomatoes into halves, the string beans into lengths of 1½ inches and peppers should be chopped. Let the vegetables stand overnight in brine. Freshen in clear, cold water for two hours, and then allow them to stand for 15 minutes in liquor made of water and vinegar, equal parts. Then scald in the same liquor. For the mustard dressing take 1 quart of vinegar, 4 tablespoonfuls of flour, 1 cup of sugar, 3 tablespoonfuls of powdered mustard, ½ tablespoonful of turmeric and 1 tablespoonful of celery seed. Before adding the vinegar rub all the ingredients together until smooth, add the hot vinegar slowly, stirring the mixture into a smooth paste. Cook over a pan of water, continuing to stir until the sauce thickens. Drain the vegetables thoroughly and pour the hot dressing over them, mixing well. Pack in jars that have been sterilized and allow the jars to stand in hot water bath for 20 minutes at 180 degrees F. (simmering).

Chopped Pickle.—After chopping, place in a vessel 1 gallon *each* of green tomatoes and cabbage, ½ gallon of onions, 24 large green peppers and 12 large red peppers. Cover with water, add 1 pint of salt and leave overnight. The next morning place the mixture in a bag and allow to drain for 24 hours. After draining add 1 pint of white mustard seed. Boil 1 gallon of vinegar and 1¾ pounds of brown sugar in another vessel and pour this while hot over the chopped vegetables. Cook the whole for 15 minutes, place in jars and seal while hot.

Tomato Relish.—After scalding and skinning 15 ripe tomatoes, pare, core and cut into small pieces 6 sour apples. Peel 5 onions of medium size. Chop these very fine and place the mixture in a saucepan with 3 green peppers of 1 level teaspoonful of black pepper, 2 level tablespoonfuls of salt, ⅓ teaspoonful of cayenne pepper and ½ pint of vinegar. Boil slowly for 1½ hours. Place the relish in jars and seal while hot.

Chili Sauce.—After scalding and peeling tomatoes that are sound and red ripe, chop them into small pieces. This may be done by use of a coarse meat chopper or by pressing them through a half-inch screen. Take 36 pounds of tomatoes, 2 pounds of chopped onions and 10 ounces of ripe bullnose peppers, with stems and seeds removed. If the mixture is too mild, add a small amount of cayenne pepper. Put into a kettle of granite or enameled ware and boil down to 18 pounds. It is well to let the tomatoes stand for a while after chopping and allow some of the juice to be extracted, after which this juice should be concentrated by boiling down before the other ingredients are added. This overcomes the tendency of the tomatoes to settle on the bottom of the kettle and burn. During all the time of boiling the mixture should be stirred carefully. When the mixture has been concentrated to 18 pounds add 2¼ pounds of cider vinegar and 9 ounces of salt. Then concentrate the whole to 18½ pounds and add 6 pounds of sugar. Boil 5 to 10 minutes over slow fire and place immediately in sterilized jars, sealing while hot. It is best to sterilize the filled jars by allowing them to stand in hot water bath for 30 minutes with water at 212 degrees F. (boiling).

Tomato Ketchup.—The tomatoes should be red ripe. Small and broken fruit or extra juice from canning may be used. The green and yellowish parts impair flavor and color and should be removed. Cook thorough-

ly and put through colander or sieve. For every gallon of pulp use 2 tablespoonfuls of salt, 4 tablespoonfuls of sugar, 1 tablespoonful *each* of powdered mustard, allspice, cloves, cinnamon and pepper, one pint of good vinegar and two small red peppers, sliced and with seeds removed. The spices should be confined in a spice bag. After cooking 1½ hours add the vinegar and cook the whole until thick. If the cooking is rapid the color will be best, although care must be taken not to allow scorching. Pour immediately into hot sterilized bottles, insert corks tightly, and, after cooling cover stopper with sealing wax or dip the mouth of the bottle in melted paraffin.

SOME STAPLE PRODUCTS

Apple Butter.—Take five gallons of sweet or sterilized cider and boil it down one-half, skimming occasionally during boiling. Wash, pare, quarter and core apples, using them in proportion of two parts of apples to one part of boiled cider. Boil slowly for four to six hours, stirring often to prevent burning. When the butter is two-thirds done add about one pound of brown sugar to each gallon and spice to taste. If the apples are a little over-ripe add lemon or vinegar to give acid taste. Pack in sterilized containers and seal the tops tightly or cover with paper or cloth coated with paraffin.

Peanut Butter.—This is a very nutritious article of food and easily prepared in the home. A small meat grinder is all that is needed for reducing the peanuts to pulpy paste. The peanuts should be roasted before grinding. This may be done either before or after the shells are removed, using an oven only moderately hot and stirring frequently. Rub off the skins after roasting and remove the small germs or hearts. This latter may be done by screening the kernels. The grinding should be done with the finest plate on the grinder and the tension should be tightly screwed up so as to produce fine pulp. If necessary, run the pulp through the grinder a second time. Nothing more than salt need be added, although olive oil or peanut oil may be used to thin the butter if desired. If the paste-like condition of peanut butter is objectionable, beat in an equal quantity of boiling water. This will double the bulk of the peanut butter, leaving it of the same consistency. It will be necessary in this case to add additional salt.

Gingered Pears.—The fruit chosen should be a trifle under ripe. After peeling and coring, cut the pears into thin slices. Use 6 pounds of sugar, 1 cup of water and the juice of 4 lemons for 8 pounds of pears. For flavoring use the lemon rinds, cut into narrow strips. One-eighth pound of ginger root, cut into pieces, should be added. Let the mixture simmer until it is the thickness of marmalade. Pack while hot in hot jars. Seal immediately or allow containers to stand in hot water bath for 30 minutes at simmering point, 180 degrees F.

Grape Jam.—For this purpose at least one-half of the grapes should be under ripe. After washing the fruit and removing stems, separate the pulp from the skins. The pulp should then be cooked for 10 minutes and pressed through a colander or sieve for the removal of seeds. To each quart of skins add three-quarters of a cup of water. Boil until the skins are tender and then mix pulp and skins. After bringing this mixture to a boil add a pound of sugar to each quart. Then cook, with frequent stirring, until it meets the test for jelly or reaches a temperature of 221 degrees F. The finished jam should be poured into steriliized jars. Allow jars, partially sealed, to stand in hot water bath for 30 minutes at 180 degrees F. (simmering).

VEGETABLE AND FRUIT PASTES

For use as dessert or as a garnish on creams, custards, cakes and other dishes, the various fruit pastes are desirable. They consist of boiled-down pulp with sugar. They may be made of individual fruits or several varieties mixed. To color them, for decorative effect, add harm-

less vegetable colors in red, green or yellow. The colors are stirred into the paste while it is still boiling, after removal from the stove. If added flavoring is desired it can also be stirred in at this time. Then pour the paste in a half-inch layer on a flat dish or slab of marble or glass, first rubbing the surface with a cloth dipped in salad oil to prevent sticking. Expose to the air for a couple of days and then cut into such shape as may be desired, using a knife or small forms such as are used for cutting doughnuts or cookies. Place the cut paste on paper, sprinkle with granulated sugar and allow it to stand for two days. Then dip into crystallized sugar and pack in a wooden box, with lining of parchment paper. Place sheets of this paper between layers.

Apricot, Currant, Raspberry and Strawberry Pastes.—To each pound of fruit pulp which has been rubbed through a strainer add one pound of sugar. Cook over a slow fire until very thick. A test for thickness is to pass a spoon through the mass and see that the track of the spoon does not close up immediately.

Tomato Paste.—Cook tomato pulp in pan over boiling water until quite thick, as indicated in test for apricot and other pastes. This will require about three hours. With each quart use one sliced onion, 4 tablespoonfuls of chopped sweet red peppers or one teasponful of paprika, ½ teaspoonful of salt, 1 teaspoonful of sugar and 1 tablespoonful of mixed spices. The spices, tied in a bag, should be cooked with the pulp. Pack in small jars while hot and allow jars partially sealed to stand in hot water bath for 15 minutes at 212 degrees F.

Quince Paste.—Wipe the fruit, cut into quarters, remove core and flower and cook in water until very tender. Rub the pulp through a sieve and add ¾ pound powdered sugar for each pound of pulp. Cook until very thick. Nut kernels, scalded and chopped, may be added.

Apple Paste.—It is not necessary to use the highest grade apples. Cut the apples into quarters, remove stem, flower and core. Place immediately in cold water, to which a little salt has been added, and allow to remain until ready to cook. Boil in covered vessel and over slow fire until tender, then rub through coarse sieve. Put into kettle, adding ½ pound powdered sugar for each pound of pulp. Cook until firm, stirring steadily.

This Manual was prepared by the Commission's experts on information obtained from Farmers' Bulletins of the United States Department of Agriculture, from Agricultural Colleges and Experiment Stations, and from other sources.

NATIONAL PRIZES FOR HOME CANNED FOOD GARDEN PRODUCTS.

As a means of further stimulating interest in Food Conservation, the National Emergency Food Garden Commission has announced that it will give $5,000 and National Certificates of Merit as prizes for the best home canned vegetables grown in war gardens, located in villages, towns and cities. There will be 1,000 prizes of $5.00 each. With each prize will be awarded a certificate which will serve as a permanent record of the holder's success.

For full details as to the awards write to Commission at 210-220 Maryland Building, Washington, D. C.

President Wilson Urges Food Conservation

"Every pound of vegetables properly put by for future use, every jar of fruit preserved, add that much to our insurance of victory."—President Wilson's proclamation, July 30, 1917.

After J. N. Darling in New York Tribune

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Additional copies of this Manual may be obtained upon request. Postage, 2c.

Write for our Home Canning Manual and our Home Drying Manual, which give detailed instructions for Canning and Drying Vegetables and Fruits. Postage, 2 cents each.

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